UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,827	07/01/2003	Brian Nash	218.1041US	3895

23280　　　7590　　　04/09/2007 DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018	**EXAMINER** DENNISON, JERRY B

ART UNIT	PAPER NUMBER
2143	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/612,827	NASH ET AL.
	Examiner	Art Unit	
	J. Bret Dennison	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 July 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Action is in response to Application Number 10/612,827 received on 01 July

2003.

2.   Claims 1-10 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claim 1 recites the limitation "the target operating system" in the third limitation of the

claim. There is insufficient antecedent basis for this limitation in the claim. While it is

understood that "the target operating system" is referring to the "deadline based

operating system" found in the previous limitation, the limitation does not follow proper

antecedent basis.

3.   Claim 1 recites the limitation "the event data" in the fifth limitation of the claim.

There is insufficient antecedent basis for this limitation in the claim. While it is

understood that "the event data" is referring to "the captured event data" found in the

previous limitation, the limitation does not follow proper antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipate by

Kalavade et al. (U.S. 6,393,433).

4.   Regarding claim 1, Kalavade disclosed a method and apparatus for evaluating

an effect of a run-time scheduling policy on a performance of an end-system having one

or more tasks (Kalavade, col. 2, lines 1-5) and generating a state process having a state

space representative of an evolution of computation associated with the end-system,

the evolution being representative of task transitions with respect to the run-time

scheduling policy (Kalavade, col. 2, lines 5-11), then, given the state space, computing

performance metrics that are representative of the effect of the run-time scheduling

policy, the performance metrics being used to influence the behavior of the run-time

scheduler in the system (Kalavade, col. 2, lines 11-23). The invention allows the

user/designer to select a scheduling policy, for example, policies such as EDF, RM, and

FCFS, which are all well known policies that include tasks having specific start times

and deadlines (Kalavade, col. 3, lines 50-62). Kalavade also disclosed the method

allowing the designer to experiment with different run-time schedulers, the methods and

apparatus of the invention providing a framework for systematically quantifying their

effect on the performance of the applications and on the end-system (Kalavade, col. 4,

lines 9-14).

Therefore, Kalavade disclosed a method for configuring an operating system

comprising the steps of:

creating a task schedule on a host, the schedule comprising tasks, task start

times, and task deadlines (Kalavade, col. 3, lines 55-62, Kalavade disclosed creating

task schedules using scheduling policies such as EDF, RM, FCFS, which are all well

known policies that include tasks having specific start times and deadlines);

configuring a time deadline based operating system on a target coupled to the

host, according to the task schedule (Kalavade, col. 3, lines 30-40, Kalavade disclosed

running scheduling policies on the performance of applications with task-level

variability);

running the target operating system while simultaneously capturing event data

(Kalavade, col. 5,lines 30-35, Kalavade disclosed that, given the input data, the method

generates the state process 204 and computing performance, clearly requiring

capturing the event data as the schedule policy is executed);

uploading the captured event data to the host (Kalavade, Fig. 2, col. 6, lines 50-

60, Kalavade disclosed the evaluation processor receiving the captured event data from

end-system processors P1-P3);

at the host, converting the event data into a corresponding graphical

representation indicative of the occurrence of significant events on the target, the

significant events corresponding to the task start times and the deadlines (Kalavade,

col. 5, lines 20-25, Kalavade disclosed the results being presented to the user; lines 35-45, Kalavade disclosed each application being specified by a task graph, with nodes representing task-level computations and arcs specifying precedence between nodes, therefore, the data must be converted to a graphical form in order to present the data to the user);

changing the task start times and task deadlines in response to user interaction with reference to the graphical representation, the changes corresponding to specific significant events; and using the changes to adjust and recreate the task schedule and again configuring the time deadline based operating system (Kalavade, col. 3, lines 31-37, Kalavade disclosed providing an analytical approach to evaluate the impact of running scheduling policies on the performance of applications with task-level variability; col. 4, lines 9-14, Kalavade disclosed allowing the designer to experiment with different run-time schedulers; Therefore, the use can view the results of one scheduling policy and make changes to the scheduling policies with task level variability, and executing the new policies again).

5.   Regarding claims 2 and 9, Kalavade disclosed the limitations, substantially as claimed, as described in claim 1, including storing the task schedule in a table (Kalavade, col. 3, lines 55-61, Kalavade disclosed the user being able to select the policies meaning they must be stored in memory. It is inherent that memory includes tables to associate data with addresses. Therefore the task schedule is stored in a table within the memory).

6.   Regarding claim 3, Kalavade disclosed the limitations, substantially as claimed,

as described in claim 2, including wherein the step of using the changes is carried out

by writing at least one of a new task start time and a new task deadline in the table

(Kalavade, col. 3, lines 35-36; Kalavade, col. 4, lines 34-40; Kalavade also disclosed

"task-level variability" and allowing the end-system to be designed more efficiently by

changing task deadlines).

7.   Regarding claims 4 and 10, Kalavade disclosed the limitations, substantially as

claimed, as described in claims 2 and 9, including the further step of coupling the table

to the graphical representation, and wherein the step of using the changes is carried out

by manipulating the graphical representation to change the table (Kalavade, col. 4, lines

34-40, Kavalade disclosed allowing the end-system to be designed more efficiently by

changing task deadlines, which would require the table to be coupled to the graphical

representation in order for the user to be able to make the changes).

8.   Claim 6 includes a computer system comprising a host computer coupled to a

target computer the computer system implementing the method substantially as claimed

as described in claim 1. Kalavade disclosed the evaluation processor receiving the

captured event data from end-system processors P1-P3 (Kalavade, Fig. 2, col. 6, lines

50-60) such processors being within computers (Kalavade, col. 3, lines 1-10).

Therefore, claim 6 is rejected under the same rationale.

9.   Regarding claim 7, Kalavade disclosed the limitations, substantially as claimed,

as described in claim 6, including wherein the time deadline based operating system

includes a task schedule comprising tasks, task start times and task deadlines

(Kalavade, col. 3, lines 55-62, Kalavade disclosed creating task schedules using

scheduling policies such as EDF, RM, FCFS, which are all well known policies that

include tasks having specific start times and deadlines), the target computer capturing

event data corresponding to the task start times and task deadlines (Kalavade, col.

5,lines 30-35, Kalavade disclosed that, given the input data, the method generates the

state process 204 and computing performance, clearly requiring capturing the event

data as the schedule policy is executed).

10.   Regarding claim 8, Kalavade disclosed the limitations, substantially as claimed,

as described in claim 7, including wherein the host computer converts the event data

corresponding to task start times and task deadlines into a graphical representation

(Kalavade, col. 5, lines 20-25, Kalavade disclosed the results being presented to the

user; lines 35-45, Kalavade disclosed each application being specified by a task graph,

with nodes representing task-level computations and arcs specifying precedence

between nodes).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kalavade

et al. (U.S. 6,393,433).

11.   Regarding claim 5, Kalavade disclosed the limitations, substantially as claimed,

as described in claim 4.

Kalavade did not explicitly state wherein the step of manipulating the graphical

representation is carried out by a point and click operation.

It was within the knowledge of one of ordinary skill in the art at the time the

invention was made to use a mouse to perform point and click operations, in order to

provide user input on graphical user interfaces, since using a mouse was a standard

functionality at the time of the invention.

Therefore it would have been obvious to one of ordinary skill in the art to allow

the user to make the desired changes to a graphical representation through the use of

point and click operations for the benefit of providing users with an easily accessible

way of making their desired changes to the scheduling tasks.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

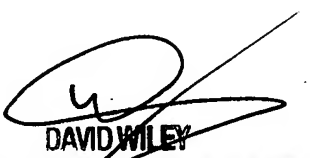Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

J. B. D.
Patent Examiner
Art Unit 2143

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100